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Amdt. dated 3/8/05
Reply to Office Action of 1/21/04

REMARKS

Claims 86-107 are pending in the present application, claims 1-85 having been cancelled by previous amendment. In the above amendments, no new claims or amendments to claims presented. Applicant believes that the present application is in condition for allowance, for which prompt and favorable action is respectfully requested.

Objection to the Title

Applicant has rewritten the title to more clearly indicate the invention to which the claims are directed. Approval of the new title is respectfully requested.

35 U.S.C. §112, First Paragraph Rejection

Claims 87-89 and 98-100 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner has asserted that the specification fails to describe how the "transfer function" recited in claims 87 and 98 is produced or obtained. Exemplary paragraphs 144, 152 and 183 are pointed to by the Examiner as lacking detail. Applicant respectfully traverses this rejection for the following reasons:

(i) A **transfer function** is a mathematical representation of the relation between the input and output of a linear time-invariant system. **Transfer function** is commonly used in the analysis of single-input-output analog electrical circuits, and particularly sensors. In its simplest form for continuous-time signals, a transfer function is often written as:

In its simplest form for <u>continuous-time</u> signals, the function is often written as

$$H(s) = \frac{Y(s)}{X(s)}$$

where H(s) is the symbol for the transfer function, Y(s) is the output function, and X(s) is the input function.

In <u>discrete-time</u> sytems, the function is similarly written as $H(z) = Y(z) / X(z)$.

One of skilled in the art would readily appreciate and understand, in the context of sensors in particular, the definition of transfer function as applied in the claims even without

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additional detail in the specification. Additional information on transfer functions may be found at:

"http://en.wikipedia.org/wiki/Transfer_function",

as well as from any number of textbooks relating to signal processing, sensors and the like. Upon further request from the Examiner, Applicant would be more than happy to provide any additional information if it will help alleviate confusion over how transfer functions are produced and/or obtained in connection with sensors.

(ii) Having explained that a transfer function H(s) is defined as the ratio of the output function Y(s) to the input function X(s), the Examiner's attention is to drawn to the following paragraphs in the specification, with reference to corresponding published document US2002/0033706 for convenience):

Para. [0017]: "Such a method may also include calibrating the sensor using a reference field source to obtain a transfer function of the sensor."

Para. [0063]: "FIG. 39 shows plots of the transfer functions for a 2 mm ball sensor...for the case of parallel and perpendicular polarizations."

Para. [0073]: " FIG. 49 shows a screen...at which a sensor transfer function may be selected, inputted, or edited."

Para. [0154]: "...Signal processing operations may be performed on the acquired signal to account for the transfer function of the selected sensor..."

Para. [0187]: "...It may also be desirable to account for the transfer function of the sensor...a recognition mechanism (e.g., including a mechanical key and/or an optical sensor and/or a-electrical mechanism to sense an identifying code of the sensor) may be included to allow automatic recognition of a sensor and consequent selection of the appropriate transfer function (e.g., by selecting a particular file containing the transfer function, or by indicating a directory or folder where such a file may be stored)"

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See also paragraphs [0252]-[0255] and [0265]-[0274].

Applicant submits that the above paragraphs sufficiently describe how transfer functions may be obtained in the context of the presently claimed inventions. Accordingly, reconsideration is respectfully requested.

Rejection of Claims 86-107

Claims 86, 90-95, 97 and 101-106 stand rejected under 35 U.S.C. §102(b) as being anticipated by Eriksson et al. (US Patent No. 5,844,414). Further claims 87-88, 98 and 99 stand rejected as being unpatentable under 35 U.S.C. §103(as) over Eriksson as applied to claims 86 and 97 above, and further in view of Todter et al. (US Patent No. 5,973,070). Claims 89 and 100 stand rejected as being unpatentable over Erikkson and Todter as applied to claims 86-88 and 97-99, and further in view of Kondraske (US Patent No. 4,873,655). This rejection is also respectfully traversed for the following reasons.

Each of independent claims 86 and 97 (related as method and scanner, respectively) are directed to measurement of "near fields" by use of "a rotating sensor" that captures magnitude and direction of a magnetic field radiated by an integrated circuit, and using such measurements to create a current map of the magnetic field.

None of the references cited as prior art teach or suggest the invention to which the independent claims are directed. Specifically, none of the references teach the measurement of near fields by use of a rotating sensor to capture magnitude and direction measurements of the near field characteristics.

Eriksson et al merely describes a moving means having a measuring probe which is adapted to move along a slider to measure far field characteristics about a printed circuit board. This has nothing to do with near field measuring of near fields about an integrated circuit using a highly unique rotating sensor. Accordingly, this reference is clearly distinguishable over the claimed invention.

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Each of the patents to Todter and Kondraske are relied upon as showing further claimed dependent features, none of which alone or in combination with Eriksson overcome the deficiencies of Eriksson set forth above. Accordingly, the claims as presented should also be allowable over these references.

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CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: 3/8/05 _____   By: _____
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